VOLUME XI NUMBER 7

THE ELEMENTARY SCHOOL TEACHER

MARCH, 1911

A GRADED COURSE IN SCHOOLROOM GYMNASTICS. III

JULIA ANNA NORRIS
School of Education, The University of Chicago

GYMNASTICS BY COMMAND (*continued*)

It will be noticed that, beginning with the fourth lesson for the fifth grade (below, p. 353), and all higher grades, the introductory movement becomes a running in place with arm movements combined. This practice is introduced because at about the time of the year that this lesson would naturally be reached the weather becomes cold enough to complicate the ventilation question. Children who have been sitting quietly for some time may feel uncomfortably chilly if the windows are opened before they have had a chance to get the circulation started. If, however, a general vigorous exercise be taken first so that the skin is in a glow it will usually be safe immediately afterward to open the windows for the performance of the rest of the lesson.

Common-sense must, however, be used. It will often be better, instead of raising the windows at the bottom, to lower them at the top so that the wind will not blow directly on the children. The room may cool off so rapidly that it will be necessary to close the windows after only a few minutes, finishing the lesson under this condition. Care should be taken that children of low vitality do not stand close by open windows.

The arrangement of the class should be such as to facilitate observation of the children by the teacher and of the teacher by the children. The distribution within the rows, therefore,

should be according to height, the shorter children in front. In the two upper grades it is well to have the boys and the girls stand in separate rows.

In the further interest of observation and especially of manual correction every third aisle should be vacant. This enables the teacher to come close to any child in the room by moving up and down the vacant aisles. The arrangement can usually be accomplished by having two rows rise on the right side of their chairs, the rest on the left, thus leaving one aisle free, and by assigning special places to the children occupying the other aisle to be vacated. In a full room it may be necessary that these special places shall be in front of the occupied aisles, but in many rooms a few vacant seats will help solve the difficulty.

A further change is sometimes found necessary for the jumping exercise in poorly constructed buildings, where a considerable jarring of the floor may be caused. All such difficulty is usually eliminated if the jumping is performed by half the class at a time along the two edges of the room where the ends of the floor beams are set in the walls.

In some school buildings the corridors are sufficiently wide, light, and airy to make it a decided advantage to take the gymnastics there. This affords greater freedom of movement, better opportunity to see and correct faults, and a chance to ventilate the schoolroom thoroughly during the absence of the class.

In the upper grades balance steps are introduced which combine the features of the leg, balance, and jump classes of movement. These three classes are omitted in lessons which include a balance step. The most convenient position for the hands during balance steps is the hips-firm position.

These movements resemble the balance class in calling for a fine adjustment of equilibrium and body control, but the conditions under which the control must be expressed are fluid rather than static. They resemble the jump class in their acceleration of heart and respiration, but here again the exercises are of a serial character rather than consisting of short, separate, vigorous efforts. Their rhythmic character and dan-

cing grace appeal to the aesthetic side of the child, especially to the girl at this age when the conscious output of muscular energy may seem more or less of a burden.

Since they are less formal in nature than the rest of the lesson it is well to use them as the closing exercise, devoting to them somewhat more than their proportionate allowance of time. They require movement of the children around the room, and the best arrangement for this seems to be to have every other row face the back of the room and every two rows constitute a group. The children in each group then follow each other around the row of desks which stands in their midst. All the groups can work at the same time and there will be no such crowding as probably would occur if they were to form in a large circle around the walls of the room. There is an advantage also in the fact that no child will move very far from his own seat, so that when the exercise is over there will be comparatively little movement before sitting down.

It should never be forgotten that one of the prime objects of schoolroom gymnastics is good posture and carriage. With the lessening of conscious effort which is likely to attend rhythmic work, especially when accompanied by music, strength and beauty of posture are likely to suffer. The teacher should bear this in mind and require the same erect attitude as in the earlier part of the lesson.

Ease and grace of movement and lightness of foot work are the other chief considerations. If the step is at all difficult it should be analyzed and taught in place before trying it around the room.

Various devices may be resorted to for the musical accompaniment. Of course if there is a piano in the room that will solve the difficulty. If there is a piano in a hall it may be worth while to give up the whole lesson one day in the week to the practice of balance steps there.

In the absence of any piano at all it often works well to have the children make their own music, using popular airs. They may hum, or sing the syllable "loo," or whistle. The boys and girls may take turns supplying the music, the boys whistling

and the girls humming. It is worth while to take some trouble to develop a good musical accompaniment, for its effect on the grace and rhythm and lightness of action is most valuable.

In teaching anything so military in character as gymnastics there is always danger of sacrificing the development of individual children to the perfecting of details which will improve the appearance of the class in mass action. While uniformity of action is important from the moral standpoint of good order and co-operation the teacher in working for it should not forget the fundamental physical purposes of the work, the development of strong posture, and performance of all gymnastic exercise with vigorous expenditure of energy and in strong attitudes.

In correcting the efforts of the children a higher stand should be taken than that of perfecting abstract form of movement. The children may be interested in the postural significance if that is the basis of the correction, or the hygienic if improvement of function is the object as in deep breathing, or the aesthetic as when beauty of form is to be developed by correct relations, or the social when individual taste needs to be subordinated to the uniform performance of the class.

In correcting postural faults the admonition "Shoulders back!" should never be used, since it results in an awkward, swayback posture. "Chest up!" "Head up!" "Stand tall!" are all good suggestions because they bring about an upward stretching of the whole body. If a child is found, however, whose best efforts are incapable of producing good posture the teacher should correct him manually by placing her hands on his shoulders, fingers in front, thumbs on shoulder blades, rolling the shoulders backward and off from the chest, at the same time forcing the chest upward and forward with her thumbs, which should press in on the wings formed by the shoulder blades. Gradually the child's muscle sense will be thus trained so that he will recognize the correct attitude and assume it voluntarily.

Praise heartily when you honestly can. A quick and generous recognition of an exercise well performed or of a conscientious striving toward it will stand out in gratifying relief against the background of stimulation and correction which must

necessarily be a pretty constant accompaniment of the commands.

Improvement in the work is furthered by the judicious use of child critics in the lower grades and as high up as the practice interests the children. A child critic may be chosen for various reasons: because of unusually good effort, because of poor effort, because of having a special fault to be corrected, etc. He must invariably be a child, however, who can be trusted to stand before the class and carry out his part attentively and decorously. He should be told what to watch for, e.g., the row that is best in posture, or in quickness of response, or in strength of movement, or in a certain detail that needs improvement. Or he may be told to pick out the row which seems to him to be doing the best work in general, in which case he should give the reason for his choice. No child should be chosen for critic oftener than once in several weeks, and gradually all the children in the class may have a turn at it. Both the critic and the class benefit by this device if it is reasonably used.

Two weeks make a good unit of time to devote to one gymnastic lesson. The teacher may not be satisfied with the degree of perfection achieved by the end of that period, but if the children have worked in a thoroughgoing fashion they will be ready for the next lesson. It is better to go back and review an old lesson occasionally than to risk monotony by working too long on the same one. Such a review will usually show that marked improvement and power have been gained through the practice of the intervening lessons.

The new lesson should not be introduced all at once. It is better to give one or two new movements daily, introducing them in their proper order among the old ones.

It is good practice in all grades to substitute a game on one day of the week for the gymnastic lesson. Wednesday is the best day for this as it breaks the week into two equal, short periods. The game gives the teacher an opportunity to observe the children at a different angle from that of any of their studies and at a time when they are expressing themselves with free-

dom from strain or consciousness. There are many games in all grades which can be used in the ordinary schoolroom. In suitable weather and season it is of course better to play the games outdoors.

GRADE I

Keeping House

Story—The children are going to help the mother keep house today. They scrub the clothes clean and hang them on the line to dry. Then they sweep off the piazza and blow the dust from the railings and chairs. The baby begins to cry and they put him into his carriage and take him out for a ride. The mother then thanks them for helping her so nicely and sends them out to play.

Exercises:

1. Washing the clothes
   Purpose: Back and arm exercise.
   Signals: A. Take up the clothes.
   B. Rub them—down.
   Bend forward with straight spine and push arms out straight.
   C. Up.
   Return to erect position with arms bent.

2. Hanging the clothes on the line
   Purpose: Correction of chest and upper spine.
   Signals: A. Stand up on chairs.
   B. Pick up the clothing.
   Not a gymnastic movement, but part of the story. Children may suggest an article of clothing.
   C. Hang it on the line.
   Reach high up with both hands, look up, and clasp two fingers of one hand (clothes-pin) round one finger of the other.

3. Sweeping
   Purpose: Arm, shoulder, and trunk exercise.
   Signals: A. Take hold of the broom.
   B. Left.
   C. Right.
   Make a vigorous sweep in direction named, keeping feet flat on floor, swinging arms and twisting body.

4. Blowing dust
   Purpose: Full breathing.
   Signals: A. Breathe.
   Inhale through nose.

B. Blow.
Exhale forcibly through mouth, blowing at objects higher than the head.

5. Taking the baby out to ride
Purpose: Erect posture in walking.
Signals: A. Take hold of handle of carriage.
Bend hands up in front of shoulders.
B. Ready—walk.
Take 5–10 brisk steps forward rhythmically.
C. Turn.
D. Ready—walk.
With 5–10 brisk steps return to place.
E. Turn.

6. Running at play
Purpose: General exercise.
Signal: Ready—run.

Miscellaneous Suggestions:

The clothes line is very high so the children must stretch vigorously to reach it. Suggest objects to blow the dust from, always having the objects high, so that they will not blow in each other's faces. Only straight, strong children would be considered worthy to take the baby out to ride. The baby carriage is a full-size one, so the children have to reach up to the handle rather than to bend over.

GRADE II

The Snow Play

Story—The children reach up toward the clouds and try to pull the snow down out of them, scattering it on the ground in drifts. Then they gather it up, make it into snowballs, and throw them away. They try warming their hands by breathing on them and by swinging their arms across their bodies. They have a fine time coasting down hill on their sleds, and finally they run home again.

Exercises:

1. Making the snow fall
Purpose: Correction of chest and upper spine.
Signals: A. Reach.
Reach high with both hands, and look up.
B. Snowflakes.
Lower arms, letting hands and fingers suggest the falling snow.

2. Snowballing
Purpose: Back, leg, and arm exercise.

Signals: A. On left (right) knee—down.
Kneel on left (right) knee, at the same time bending forward and reaching out with hands to gather snow together.
B. Up.
Spring quickly to erect position, holding imaginary snow.
C. Press.
Press snowball into shape.
D. Ready.
Draw hand back ready to throw.
E. Throw.
Throw at some suggested target.

3. Warming hands with breath
Purpose: Full breathing.
Signals: A. Breathe.
Inhale while hands are held away from mouth.
B. Blow.
Blow into open palms.

4. Swinging arms for warmth
Purpose: Chest correction and arm exercise.
Signals: A. Arms up.
Raise stretched arms to shoulder height in side plane or a little back of it.
B. Slap.
Swing arms across quickly, letting hands touch opposite shoulders momentarily and then swinging them back again forcibly so as to expand chest.

5. Coasting
Purpose: Leg and back exercise.
Signals: A. Take hold of sled rope.
Clasp hands behind.
B. Climb hill—start.
Walk forward five steps, lifting knee high at each step.
C. Turn.
Face back of room quickly.
D. Ready—start.
Five more steps.
E. Boy fashion.
Children lie on their chairs, face downward, arms stretched out in front.
Or, Girl fashion.
Children sit on their chairs, arms and feet in front.

6. Running home
Purpose: General exercise.
Signal: Ready—run.

Miscellaneous Suggestions:

In coasting, there may be a race, in which case the children with the straightest backs win.

GRADE I OR II

Valentine's Day

Story—The children start out to give away their valentines. First they drop into the letter box those that are to go a long distance. Then they go to a friend's house and climb the steps very softly so as not to be heard. Suddenly someone opens the door and looks out. The children crouch instantly and hide, but as soon as the door closes they spring up again. Then they slip some valentines under the door, ring the bell, and run quickly home, when, being out of breath, they pant vigorously.

Exercises:

1. Climbing the steps
   Purpose: Leg exercise.
   Signals: A. Hands on hips.
   B. Ready—climb.
   Take a given number of steps forward, lifting the knees high, and counting softly.

2. Dropping valentines into letter box
   Purpose: Correction of chest and upper spine.
   Signals: A. Reach.
   Raise both arms high, look up, and stand on tiptoes.
   B. Down.
   Return to straight standing position.

3. Hiding
   Purpose: Trunk and leg exercise.
   Choose a child to represent the inmate of the house. He stands in a chair with his hands over his face (closed doors). Suddenly he parts his hands and looks out, whereupon the other children crouch quickly down on the floor. Presently he closes his hands again, and the children spring to straight standing position.

4. Slipping valentines under the door
   Purpose: Trunk and leg exercise.
   Signals: A. On left (right) knee—down.
   Kneel with back erect.
   B. Slip the valentine under.
   Slip hands forward just above floor.
   C. Stand.
   Spring up to straight standing position.

5. Running home
   Ring desk bell (door bell) for each row to run. Or the teacher may say "Ring" and the children respond by pressing an imaginary electric bell and saying "Ding," and running.
6. Breathing
   Signals: A. Breathe in.
   B. Breathe out.

Miscellaneous Suggestions:

Whose house shall we go to? How many steps are there to climb at that house? For whom shall we leave valentines? The choice of a child to open and close the imaginary doors may depend on good effort at taking the exercises well and holding good position.

GRADE III

Lesson III

1. Leg. *Hips—firm!* Foot placing forward with left (or right) foot, counting to eight—start! *Po—sition!*
   Foot placed forward on odd counts, replaced on even counts. Weight moves forward each time so as to be evenly borne by the two feet. No alternating.
2. Arch. Head forward—bend! Upward—raise!
   Head forward—bend! Neck relaxes and head drops forward on active chest.
   Upward—raise! Head is raised slowly and strongly with chin in and neck back; a deep full breath meanwhile raises chest vigorously.
3. Arm. Chest—firm! Po—sition!
   Each arm makes a horizontal shelf, elbow at height of shoulder in side plane, forearm bent forward, hand in front of chest, touching it, palm down. Hands are pulled as far apart as possible. Elbows are pulled well back.
4. Trunk. *Hips—firm! Feet sideways—place!* Trunk to left (right)—bend! Upward—raise! *Feet together—place! Po—sition!*
   Shoulders should be kept squarely to front. A deep inhalation should accompany the bending, an exhalation the raising.
5. General exercise. Mark time—march! Class—halt!
6. Breathing. Arm raising forward and upward—raise!—sink!
   Inhale while raising extended arms through the front plane to their full height above the head.

Lesson IV

1. Leg. One step forward—march! One step backward—march!
   One step is taken in two counts, children counting, 1—2!
   1. Step forward or backward with left foot. 2. Bring right foot up to left foot with a click of heels.

2. Arch. *Shoulders—firm!* Head to left—twist! Forward—twist! To right, etc.
   The same in four counts—1!—2!—3!—4! *Po—sition!*
3. Arm. Neck—firm! Po—sition!
   Tips of fingers meet on back of neck, wrists straight, elbows back, neck pressed back against fingers.
4. Trunk. Trunk to left—twist! Forward—twist! To right, etc.
   Twist trunk and hips at least till shoulders are parallel with side wall, farther if possible. Keep shoulders at even height, feet flat on floor.
5. Jump. *Hips—firm! Heels—raise!* Jump, counting to ten—start! *Heels—sink! Po—sition!*
   Jump, keeping heels together and landing lightly on toes at each count. Teacher gives each count as a command at first; later the children count aloud and jump rhythmically.
6. Respiratory. *Arms forward—raise!* Arm moving sideways—1!—2! *Po—sition!*
   Arm moving sideways—1! Carry arms horizontally to side plane. 2! Return to front plane.
   After spending two weeks on each of the above four lessons spend two weeks in alternating the third and fourth.

GRADE IV

Lesson III

1. Introductory. Side step to left (or right)—march!
   Side step to left and right—march!
   Two side steps to left (or right)—march!
   Side step is taken in two counts. Left foot steps to left on "one," right heel is brought up to left with a click on "two."
2. Leg. *Hips—firm!* Foot placing forward with change of feet, counting to eight—start! *Po—sition!*
   See Grade III, Lesson III. Start with left foot and alternate.
3. Arch. Head forward—bend! Upward—raise!
   See Grade III, Lesson III.
4. Arm. Neck—firm! Po—sition!
   See Grade III, Lesson IV.
5. Trunk. *Hips—firm!* Trunk to left—twist! Forward—twist! To right, etc.
   See Grade III, Lesson IV.
6. Jump. *Hips—firm! Left foot forward—place! Heels—raise!* Jump with change of feet, counting to eight—start! *Heels—sink! Po—sition!*
   Land with right foot in front of left on odd numbers, left in front of right on even numbers.

7. Breathing. Arm raising forward and upward—raise!—sink!
See Grade III, Lesson III.

Lesson IV

1. Introductory. Review the forward steps and the side steps.
2. Leg. *Hips—firm!* Foot closing and opening, counting to eight—start! *Po—sition!*
See Grade III, Lesson I.
3. Arch. *Head to left—twist!* Head twisting all the way—1!—2! *Forward—twist!*
4. Arm. Head—firm! Po—sition!
Tips of fingers meet on crown of head, wrist curved upward, elbows back.
5. Trunk. Neck—firm! Trunk forward—bend! Upward—raise! Po—sition!
The same in four counts—1!—2!—3!—4!
The same three times—go!
6. Jump. *Hips—firm! Left foot backward—raise!* Running in place, counting to eight—start! *Po—sition!*
Left foot backward—raise! Raise foot as high as knee. In the running movement throw the feet as high as the knees, and land on the toes. To facilitate finishing with both feet on the floor the word "down" may be substituted for the count "eight."
7. Breathing. Arm turning—1!—2!
Inhale while the arms are rotated outward until thumbs point backward, exhale while returning to starting position.

GRADE V

Lesson III

1. Introductory. Two steps forward—march! Two steps backward—march! Left about—face! Right about—face!
Two steps forward, etc. See Grade IV, Lesson II.
Left about—face! Same technique as in left facing, but the turn covers 180°.
2. Leg. *Hips—firm!* Alternate heel and toe raising, counting to ten—go! *Po—sition!*
Raise heels and lower toes on odd counts, raise toes and lower heels on even counts. Do not bend at hip joint.
3. Arch. *Hips—firm!* Head forward—bend! To left (right)—roll! Forward—twist! *Po—sition!*
To left—roll! Swing head in a quarter circle upward to left, at the same time turning it, so that child finishes with head erect, looking over left shoulder.

4. Arm. *Shoulders—firm!* Left arm sideways—stretch! Arms—change! Change! *Po—sition!*
   See Grade VI, Lesson II.

5. Balance. *Hips—firm!* Left (right) knee upward—bend! Foot re—place! *Po—sition!*
   Bend knee up in front plane till there is a right angle at hip joint and another at knee joint, with toe pointed downward.

6. Abdominal. *Hips—firm!* Trunk to left—twist! Forward—twist! To right, etc. *Po—sition!*
   See Grade III, Lesson IV.

7. Back. *Hips—firm!* Trunk forward—bend! Neck—firm! Hips—firm! Neck—firm! Hips—firm! Trunk—raise! *Po—sition!*
   The same in eight counts—go!
   The counting should be in slow time.

8. Jump. *Hips—firm!* Jump in place—1!—2!—3, 4!—5!—6! *Po—sition!*
   See Grade VI, Lesson II.

9. Respiratory. *Arms sideways—raise! Hands—turn!* Arm raising upward —raise!—sink! *Po—sition!*
   Arm raising upward—raise! Raise arms to fully extended position above head. Sink! Lower them to height of shoulders in side plane.

GRADE V

Lesson IV

1. Introductory. *Hips—firm!* Running in place, counting to ten—go! *Po—sition!*
   See Grade IV, Lesson IV.

2. Arch. *Hips—firm!* Neck backward—bend! Upward—raise! *Po—sition!*

3. Arm. Arm stretching upward and foot placing sideways—1!—2!
   Position in two counts—1!—2!
   1! Bring arms to shoulders-firm position and place left foot. 2! Stretch arms to full extension and place right foot.
   Foot placing sideways. See Grade III, Lesson II.

4. Leg. *Hips—firm!* Foot placing forward and backward with change of feet—go! *Po—sition!*
   Class counts to four twice. 1. Place left foot forward two foot-lengths' distance. 2. Replace it. 3. Place it backward a similar distance. 4. Replace it. 1, etc., Repeat with right foot.

5. Balance. *Hips—firm!* Left (right) leg backward—raise! Foot re—place! *Po—sition!*
   Raise leg backward about 45° with knee straight and without tipping trunk forward.

6. Abdominal. Chest—raise! Re—turn!
See Grade VI, Lesson II.

7. Back. *Arms sideways stretch and feet sideways—place!* Trunk forward—bend! Arm turning—1!—2! Trunk—raise!
Or, Trunk bending forward and arm turning—go! *Po—sition!*
Arms sideways stretch, etc. Technique similar to that in Arm movement above, but children do the counting.
Arm turning—1! Rotate arms so that thumbs turn upward and backward.
Trunk bending, etc.—go! Taken in four counts. 1. Bend forward. 2. Rotate arms. 3. Rotate back again. 4. Raise trunk.

8. Jump. Jump with sideways flinging of arms—1!—2!—3, 4!—5!—6!
3, 4! The arms are flung sideways and returned to position while the child jumps upward and returns to landing position.

9. Respiratory. *Chest—firm!* Arm flinging sideways—1!—2! *Po—sition!*

GRADE VI

Lesson III

1. Introductory. Combination of one march step and one facing as:
One step forward and left about face—march! Left face and side step to left—march!
Make each step of facing complete.

2. Leg. Neck—firm! Heel raising and knee bending—1!—2!—3!—4! The same three times—go! *Po—sition!*
Bend knees to right angles only.

3. Arch. *Hips—firm!* Head to left—twist! To left—bend! Upward—raise! Forward—twist! To right, etc.
Head to left—twist! Twist head till chin is over shoulder. To left—bend! While inhaling deeply bend head toward back (following left ear), at the same time raising chest.

4. Arm. Arm stretching upward—1!—2! Stretching downward—1!—2! Upward—2! as high above head as possible, elbows straight.

5. Balance. *Hips—firm!* Left knee upward—bend! Knee forward—stretch! Upward—bend! Re—place! Right knee, etc.
Knee upward—bend! See Grade V, Lesson III. Forward—stretch! Straighten the knee, lowering leg so that it forms angle of 45° with floor.

6. Abdominal. *Hips firm and feet—close!* Trunk to left—twist! Forward—twist! To right, etc.
Trunk to left—twist! See Grade III, Lesson IV.

7. Back. Trunk forward—bend! Arm raising sideways—raise!—sink! Trunk—raise!
Arms should be raised to shoulder height. In sinking they should move in a line parallel with axis of trunk.

8. Jump. Jump in place with the hips firm—1!—2!—3, 4!—5!—6!
3, 4! As the children jump they change hands to hips-firm, and return them to fundamental position as they land.
9. Respiratory. *Hips—firm!* Arm pulling backward—1!—2! *Po—sition!*
1! Inhale while pulling elbows backward vigorously. 2! Exhale while letting them slip forward passively.

GRADE VI

Lesson IV

1. Introductory. *Hips—firm!* Running in place, counting to ten (or twenty or thirty)—go! *Po—sition!*
See Grade IV, Lesson IV.
2. Arch. *Hips—firm!* Chest—raise! Re—turn! *Po—sition!*
3. Arm. Left arm upward, right arm downward, stretching—1!—2! Arm changing—1!—2! Arm stretching downward—1!—2!
1! Shoulders-firm position. 2! Arms extended in direction named.
4. Leg. *Hips—firm!* Foot placing diagonally forward and backward with change of feet—go! *Po—sition!*
5. Balance. *Hips—firm!* Left leg forward—raise! Feet—change! Feet—change! etc.
Class counts 1—2! 1. Replace foot. 2. Lift the other.
6. Abdominal. *Left hip firm and right arm forward upward—fling!* Trunk to left—bend! Upward—raise! Arms—change! To right, etc. *Po—sition!* Fling! Both hands move at once. The right moves upward in front plane to highest point it can reach. Po—sition! Both hands move at once. The right moves down in front plane.
Always bend trunk toward the side that has hand in hips-firm position.
7. Back. *Arms sideways stretch and feet sideways—place!* Trunk forward—bend! Arm rotation—1!—2! Trunk—raise! *In one count, po—sition!*
See Grade V, Lesson IV.
8. Jump. Jump in place, flinging arms sideways—1!—2!—3, 4!—5!—6!
3, 4! As children jump they fling stretched arms to height of shoulders in side plane. As they land they return arms to fundamental position.
9. Respiratory. *Shoulders—firm!* Slow arm stretching sideways—1!—2! *Po—sition!*

GRADE VII

Lesson III

1. Introductory. Combinations of one march step and two facings or two march steps and one facing, as:
Two steps forward and left face—march!
Left face, side step to left and left face—march!
Make each step or facing complete.

2. Arch. *Neck—firm!* Chest—raise! Re—turn! *Po—sition!*

3. Arm. Left arm sideways, right arm upward stretching—1!—2! Arm changing—1!—2! Arm stretching downward—1!—2! 1! Shoulders-firm position.

4. Leg. *Hips—firm!* Foot placing forward, sideways, and backward with change of feet—go! *Po—sition!*
Six counts with left foot, six with right. 1. Place foot forward. 2. Replace it. 3. Place foot sideways. 4. Replace it, etc.

5. Abdominal. *Left hip firm, right arm forward upward—fling!* Trunk to left—bend! Upward—raise! Arms—change! To right, etc. *Po—sition!*
See Grade VI, Lesson IV.

6. Back. *Arms sideways stretch and feet sideways—place!* Trunk forward—bend! Arm rotation—1!—2! Trunk—raise! *In one count, po—sition!*
See Grade V, Lesson IV.

7. Respiratory. Arm rotation and deep breathing—1!—2!
See Grade IV, Lesson IV.

8. Balance Steps. *Hips—firm!* Four march steps and four slide steps alternating—go!
Four march steps: four walking steps, beginning with left foot. Four slide steps: four slides forward with right foot, bringing left foot up behind each time.
Development: A. (The line of march having been previously laid out.) March steps about the room in series—go! Class—halt! Halt is done as at same command after mark time—march!

B. Four slide steps forward with left, four with right—go!

C. Same as B in series, i.e., continuing until command, Class—halt! when class brings heels together on second count.

D. Four march steps and four slide steps alternating—go! March steps always start with left foot, slide steps with right.

E. Same as D in series.

GRADE VII

Lesson IV

1. Introductory. *Hips—firm!* Running in place, counting to ten (or twenty or thirty)—go! *Po—sition!*
See Grade IV, Lesson IV.

2. Arch. *Hips—firm!* Head to left—twist! To left—bend! Upward—raise! Forward—twist! To right, etc. *Po—sition!*
See Grade VI, Lesson III.

3. Arm. Arm stretching forward and backward—1!—2!—1!—2! Arm stretching downward—1!—2!
   1! Shoulders-firm position. 2! Stretch both arms in direction named.
4. Leg. *Hips—firm!* Heel raising and knee bending in series—go! Class—halt! *Po—sition!*
   Each movement is taken in four counts (see Lesson I), and this continues rhythmically till the command, class—halt! when the class stops in two counts.
5. Balance. *Hips—firm!* Left knee upward—bend! Knee forward—stretch! Knee—bend! Foot re—place! Right knee, etc.
   See Grade VI, Lesson III.
6. Abdominal. *Hips firm and left foot forward—place!* Trunk to left—twist! Forward—twist! Feet—change! Trunk to right, etc. *Po—sition!*
   Left foot forward—place! A two foot-lengths' placing, weight evenly divided. Feet—change! Taken in two counts: 1. Replace foot. 2. Place the other foot.
7. Back. *Hips—firm!* Left forward fall—out! Feet—change! Foot re—place! *Po—sition!*
8. Jump. *Hands for jump—place!* Jump over chairs—1!—2!—3, 4!—5!—6! Hands for jump—place! Turn so as to face chairs and place one hand on desk in front of chair and one on desk at rear.
   3, 4! Jump over chair landing softly in the farther aisle.
9. Respiratory. *Arms sideways—raise!* Arm rotation—1!—2! etc.

GRADE VIII

Lesson III

1. Introductory. Combinations of two march steps and two facings in one command, as:
   Right face, two side steps to right and right face—march!
   One step forward, right face, side step to right, and left face—march!
   Make each step or facing complete.
2. Arch. *Neck—firm!* Chest—raise! Re—turn! *Po—sition!*
3. Arm. Arm stretching sideways and upward—1!—2!—1!—2! Arm stretching downward—1!—2!
   1! Shoulders-firm position. 2! Straight arm extension in direction named.
4. Leg. *Hips—firm!* Foot placing forward, sideways, and backward with change of feet—go! *Po—sition!*
   See Grade VII, Lesson III.
5. Abdominal. *Left hip firm, right arm forward upward—fling!* Trunk to left—bend! Upward—raise! Arms—change! To right, etc. *Po—sition!*
   See Grade VI, Lesson IV.

6. Back. *Arms sideways stretch and feet sideways—place!* Trunk forward—bend! Arm rotation—1!—2! etc. Trunk—raise! *In one count. Po—sition!* See Grade V, Lesson IV.

7. Respiratory. *Chest—firm!* Arm flinging sideways—1!—2! etc. *Po—sition!*

8. Balance Steps. Waltz balance step, in three part time, preferably mazurka time. Performed with hips firm.

   Development:

   A. 1) Step to left with left foot.
      2) Step forward in front of left foot with right foot, lifting left foot from floor.
      3) Replace left foot on floor behind right, raising right from floor.
      4), 5), 6) Repeat to right.

   B. 1) Same as A 1).
      2) Same as A 2) except that right foot is slid forward instead of stepped forward.
      3) Same as A 3).

   C. 1) Same as B 1).
      2) Same as B 2) except that child rises on toes of both feet instead of lifting backward foot from floor.
      3) Heel of backward foot sinks to floor.

   D. Same as C except that some progress forward is made on the first count so that children gradually move up or down the aisles. Command "Class—halt" is signal for stopping, after the performance of one more step.

   N.B.—As the foot slides to left the body bends to right and vice versa.

GRADE VIII

Lesson IV

1. Introductory. *Hips—firm!* Running in place, counting to ten (or twenty or thirty)—go! *Po—sition!*
   See Grade IV, Lesson IV.

2. Arch. *Hips—firm!* Head to left—twist! To left—bend! Upward—raise! Forward—twist! To right, etc. *Po—sition!*

3. Arm. Arm stretching forward and backward—1!—2!—1!—2! Arm stretching downward—1!—2!

4. Leg. Neck firm and hips firm with heel raising and knee bending—go! The same three times—go!
   Taken in four counts: 1! Neck firm and heels raise. 2! Hips firm and knees bend. 3! Neck firm and knees stretch. 4! Po—sition!

5. Balance. *Hips—firm!* Leg swinging with left (right) leg—1!—2!—3! etc. *Po—sition!*
   1! Bend leg up with knee as nearly in side plane as possible and foot opposite other knee. 2! Straighten leg in side plane at angle of 45° with floor. 3! Replace foot.
6. Abdominal. *Hips firm and feet sideways—place!* Trunk to left—twist! Forward—twist! To right, etc. *In one count, Po—sition!*
7. Back. *Hips—firm!* Left forward fall—out! Feet—change! etc. Foot re—place! *Po—sition!*
8. Jump. *Hips—firm!* Jump with left facing twice—1!—2!—3, 4!—5, 6!—7!—8!
   3, 4! Jump facing left 90°. 5, 6! Jump facing left 90°.
9. Respiratory. *Hips—firm!* Arm pulling backward—1!—2! etc. *Po—sition!*
   See Grade VI, Lesson III.

MEASUREMENT OF GROWTH AND EFFICIENCY IN ARITHMETIC (*Continued*)

S. A. COURTIS
Home and Day School, Detroit

Two of the abilities discussed in the analysis above—the ability to copy correctly, and the ability to "borrow and carry"—are not mentioned in the foregoing tables and graphs. The results of the tests of these abilities were obtained only by analysis of the mistakes made, and of the gross scores. In the case of the first of the two abilities, as the papers were corrected, the number of mistakes in copying made by each grade was noted and reduced, for purposes of comparison, to mistakes per hundred examples. The record is given in Table II. The total number of mistakes per hundred examples is also given, and the percentage one is of the other. Fig. 8 shows the last relation graphically.

TABLE II

MISTAKES IN COPYING

GRADE	FUNDAMENTALS						REASONING					
	SEPTEMBER			JUNE			SEPTEMBER			JUNE		
	C*	T†	Percentage	C*	T†	Percentage	C*	T†	Percentage	C*	T†	Percentage
4	0.0	41	0	2.8	30	9	8.3	80	10	4.0	50	8
5	7.7	28	28	4.2	38	11	3.4	49	7	4.5	36	13
6	7.7	26	30	3.4	36	9	11.0	45	24	3.9	48	8
7	11.5	29	40	1.8	14	11	7.1	42	17	1.6	23	7
8	3.9	15	26	5.6	21	27	4.6	29	16	1.9	24	8
9	8.0	30	26	8.0	34	24	2.7	26	10	4.7	26	18
10	4.6	26	18	6.1	33	18	3.9	27	14	4.0	19	21
11	7.2	20	36	4.8	39	12	1.7	28	6	5.7	24	24
12	6.0	24	25	6.2	25	25	1.4	25	6	4.5	21	21
13	3.3	17	19	5.8	24	24	2.8	25	11	2.3	24	10

* C—Mistakes in copying.
† T—Total mistakes.

The conclusions to be drawn from the table and figure are many. Chief among these are the facts that the ability in question is a determining factor in successful work, and that it may, or may not, be developed by the *general* work of the classroom. At the beginning of the year a special course was devised for Grade 7 to remedy the marked defect in this ability shown by the test of the previous year and confirmed by the September test under consideration. The success of these efforts is evident from the June results, more perhaps from the actual changes in the number of mistakes given in the table than from the relative values of the graph. On the other hand, Grades 5 and

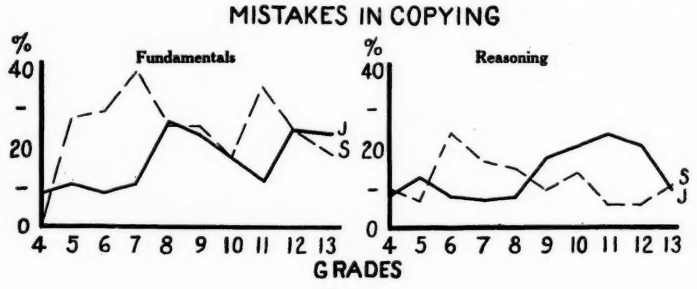

FIG. 8

6 improved during the year without special work, while Grade 8 has for abstract work, at least, suffered an actual loss.

Nothing is known in regard to the reason for the marked change in Grade 11, nor for the losses in the upper grades in the reasoning test. As these grades do not study arithmetic, any change in ability may be explained as transfer from other school work. Thus, the gain of Grade 11 may possibly be due to transfer from the work in geometry. The ability to pay close attention to the details of any work would seem to be a promising place for transfer to occur, so that the actual losses in one test and the small changes in the other are not easily explained.

In fundamentals, one-fifth of all the mistakes made, and in reasoning one-seventh, was due to pure carelessness in copying. The reasons for the smaller number of such mistakes in

the reasoning test are probably (1) the greater attention that is given to the figures in the problems in order to grasp the meaning, and (2) the small proportion the copying is of the total work done. For both tests, however, the results seem to the writer to emphasize the need for cultivating the habit of constant checking. Such a habit would have increased the efficiency in these tests approximately 5 per cent without materially decreasing the amount of work done. Whether or not special exercises and special classroom attention will be generally helpful can be told only by actual trial.

The ability to "borrow and carry" proved more difficult to measure. For an individual finishing eight or more examples in the test on fundamentals, the effects of borrowing and carrying were shown in the larger number of mistakes in the second four examples involving carrying than in the first four in which no carrying was necessary. However, part of the increase was also due to the more difficult combinations involved, and the greater length of the examples. The results by totals are given in Table III.

TABLE III

TOTAL EXAMPLES ATTEMPTED AND RIGHT. PERCENTAGE RIGHT

	Examples 1 to 4			Examples 5 to 8			Examples 9 to 12		
	At.	Rt.	Percentage	At.	Rt.	Percentage	At.	Rt.	Percentage
September	943	807	85	837	601	72	347	214	62
June	903	775	86	834	574	69	498	269	54

DIFFERENCES IN PERCENTAGES OF EXAMPLES RIGHT

	(Exs. 1–4) – (Exs. 5–8)	(Exs. 1–4) – (Exs. 9–12)	(Exs. 5–8) – (Exs. 9–12)
September	85 – 72 = 13	85 – 62 = 23	72 – 62 = 10
June	86 – 69 = 17	86 – 54 = 32	69 – 54 = 15

The results by totals are certainly surprising, to say the least. That 15 per cent of the simple examples without carrying, examples so simple that the answers can easily be obtained mentally, should be worked incorrectly is disappointing from the point of view of the standards of the school. That examples

of approximately the same length but involving carrying should be practically double the difficulty of the first is a new idea to the writer. That the increase in the length of Examples 9–12 over that of Examples 5–8 should again increase the difficulty by about the same amount was unsuspected. Finally, that the results in June should be less accurate than in September is simply incomprehensible.

In order to determine whether or not the results shown by the totals were general throughout the grades and in the various operations an analysis of the scores was undertaken. It is evident that in the comparison above, the individuals compared are not the same for all the examples. Nearly all the children finished the first four examples, while but a few were able to reach the twelfth. In the analysis comparison was made, example by example (that is, Examples 1 and 5, 2 and 6, etc.) for the first eight examples, and only the scores of those individuals in each grade were taken who succeeded in finishing both examples of each pair. Table IV gives, for each grade, the number of children that finished each pair of examples, the percentages the examples wrong are of those attempted for each example of the pair, and the difference between these percentages, or the effect of the borrowing and carrying. Fig. 9 gives the last results graphically.

The analysis at least makes plain what is happening through the school although there is little in the results to suggest an explanation. The effect of borrowing and carrying is least in substraction, but the results disclose an effect that was not foreseen. The four negative values in September and the six in June must mean that the procedure in subtraction is so uniform, that borrowing in subtraction becomes so habitual because most of the schoolwork demands it, that the habit persists in those cases in which no borrowing is necessary. That is, most of the classes actually solve the more difficult examples involving carrying more accurately than the simpler ones without it. The fact that the work of the year increased this effect would seem to confirm the explanation given.

For the other operations, the effects of borrowing and carry-

ing in addition are apparently midway between those of subtraction and those of multiplication and division. For the last two operations, the grade variations are so extreme that a judgment of "equally difficult" is perhaps the best. From the average values, the effects in the case of multiplication would appear to be

TABLE IV

ABILITY TO CARRY

GRADE	ADDITION EXAMPLES 1 AND 5				SUBTRACTION EXAMPLES 2 AND 6				MULTIPLICATION EXAMPLES 3 AND 7				DIVISION EXAMPLES 4 AND 8			
	No. Attempted	Percentage Wrong		Difference	No. Attempted	Percentage Wrong		Difference	No. Attempted	Percentage Wrong		Difference	No. Attempted	Percentage Wrong		Difference
September		Ex. 1	Ex. 5			Ex. 2	Ex. 6			Ex. 3	Ex. 7			Ex. 4	Ex. 8	
4	12	25	50	25	..	..	..	....	..	..	..	..	..	..	..	..
5	21	4	30	26	21	14	14	0	10	10	60	50	..	..	..	..
6	26	8	16	8	26	8	38	30	25	8	48	40	11	36	64	28
7	17	6	6	0	17	24	12	−12	16	6	50	44	10	30	80	50
8	30	3	7	4	30	7	7	0	28	0	36	36	22	5	18	13
9	23	4	40	36	24	29	17	−12	24	12	29	17	23	13	39	26
10	22	14	55	41	22	18	27	9	22	5	18	13	22	5	41	36
11	27	4	19	16	27	18	11	− 7	27	0	41	41	25	0	24	24
12	25	16	24	8	25	28	16	−12	25	4	20	16	23	9	35	26
13	24	13	25	12	24	0	4	4	24	0	25	25	23	17	30	13
Average ..				18				0				31				27
June																
4	10	0	60	60	6	16	0	−16	..	..	..	..	..	..	..	..
5	22	9	27	16	22	9	23	14	21	0	48	48	13	54	70	16
6	23	5	48	43	23	22	9	−13	23	0	61	61	19	58	80	22
7	16	0	6	6	16	0	6	6	16	0	12	12	15	7	40	33
8	27	4	7	3	27	15	11	− 4	26	4	19	15	25	4	16	12
9	26	10	35	15	26	19	12	− 7	26	4	50	46	24	25	38	13
10	20	5	20	15	20	15	15	0	20	0	30	30	20	5	50	45
11	24	17	33	16	25	12	20	8	25	0	36	36	24	16	54	38
12	24	8	25	17	24	25	4	−21	24	8	37	29	24	8	42	34
13	24	8	25	17	24	21	8	−13	24	8	33	25	24	8	46	38
Average ..				21				− 5				34				28

the greater, but from the values given in the table for Grades 9–13, grades which have finished their work in arithmetic, it would seem that the effects in the division are really slightly greater.

The inequality of the units of the tests, however, makes anything more than the most general conclusions of questionable

value. Perhaps the only safe inference is that the data show the need for a very careful quantitative study of the various

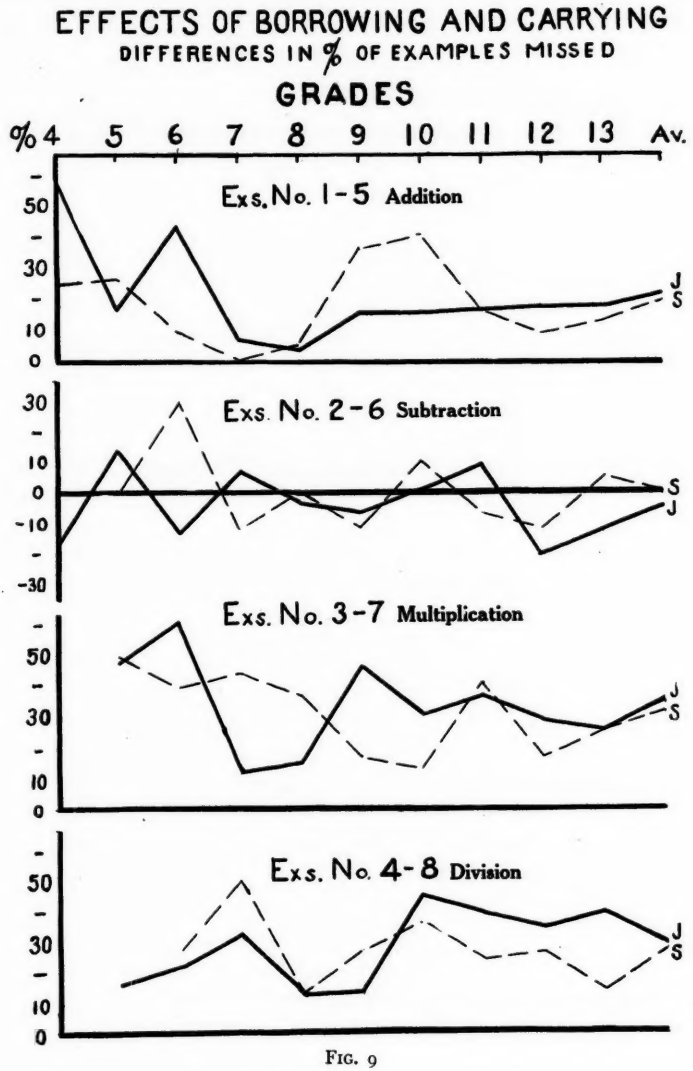

FIG. 9

factors in arithmetical work. If the mere introduction of borrowing and carrying into a multiplication example can cause an increase of 30 per cent in the number of examples missed, the ability under discussion becomes a factor of sufficient importance to receive direct classroom attention.

Perhaps the most striking fact shown by the data is the general increase in the effect of the borrowing and carrying at the end of the year's work. While for the grades actually studying arithmetic (except the erratic sixth) the year's work has, in general, produced some improvement, for most of the high-school grades, it has caused large losses. As the essential elements in borrowing and carrying are memory and attention, it would seem that a year's work in any subject should strengthen rather than weaken this ability and the writer is at a loss to account for the facts shown. In the case of Grade 6, the larger losses are probably due to the marked slump in ability; this grade will later be shown to have suffered near the close of the year (see p. 367) and it may be that something of the same kind took place in all the upper grades.

Although the general tests at the beginning and close of the year measure the total effects of the year's work throughout the school, the results of the special tests, given by the individual teachers in the various classrooms, are of interest as showing for certain grades just how the total effects were produced. The reliability of these results for purposes of comparison from grade to grade is not as great as that of the general tests which were given to the same grades at one time and by one person. However, the results for each grade are consistent with themselves and a comparison of final grade scores (the last week in June) with the previous classroom scores will show practically no difference in the results obtained. At the beginning of the school year, September, 1910, the same tests were again given in the various classrooms, and while at the time this article was commenced, they were not available, they are given here to show the loss during the summer vacation and to complete the story of the year's work. It must be remembered, however, that the last results are not strictly com-

parable with the others. The various classes change in membership each year, although the losses and gains form but a small fraction of the total enrolment of any grade.

TABLE V

YEAR'S GROWTH IN KNOWLEDGE OF TABLES. GRADE AVERAGES.

Grade	Op.	Sept. 1909	Nov.	Dec.	Jan.	Mar.	Mar.	April				May					June	Sept. 1910
								4	11	18	25	2	9	16	23	30		
5	+	35	44	46	47	55	55	63	66	63	63	..	65	..	63	65	64	47
	−	30	40	46	45	50	50	48	..	53	52	52	52	..	54	..	54	46
	×	24	32	39	40	45	46	43	..	52	..	50	52	52	55	52	56	34
	÷	19	30	36	38	41	44	..	..	51	50	51	..	55	..	..	50	31
6	+	43	46	45	46	75	65	65	65	65	73	..	66	..	63	65	63	56
	−	33	42	43	47	50	51	51	..	54	53	58	56	..	55	49	53	53
	×	30	34	49	41	49	50	54	56	..	..	58	52	..	56	56	47	42
	÷	26	31	36	36	50	54	..	50	..	49	54	..	56	53	44	48	44
7	+	53	59	68	62	72	79	77	76	82	82	..	80	..	83	89	85	79
	−	36	48	54	50	54	60	57	..	61	64	65	69	..	69	66	64	59
	×	41	43	48	48	62	59	59	..	72	70	68	74	72	77	77	74	64
	÷	34	43	48	48	59	59	..	69	..	..	67	..	70	74	74	70	62
8	+	56	65	68	66	73	76	82	83	84	84	..	82	..	85	84	84	79
	−	42	52	55	54	59	63	64	..	67	69	69	70	..	69	67	68	64
	×	49	55	60	56	62	68	67	68	..	..	71	..	74	73	72	72	60
	÷	41	54	58	59	63	66	..	65	..	75	74	73	..	76	70	77	67

From the graph, Fig. 10, it is evident at once that the story of the year's growth varies from grade to grade. Grade 5 shows a rapid gain during the first few weeks of school, a steady uniform growth in all operations during the rest of the year, and a large loss during the summer. Grade 6 shows less gain during the opening weeks, marked fluctuations both in the absolute and relative scores in the various operations during the rest of the year, a marked slump in ability the last six weeks of school, and the smallest loss of any class during the summer. Grade 7 shows the most rapid gain of the four classes, a gain quite uniform throughout. The loss during the summer is small and approximately the same for the various operations. The curve for Grade 8 shows rapid gain during the first weeks, a long "plateau," a marked gain in April, a gain that is held until the close of school, only to be followed by a large loss during the summer.

The cause of these variations is partly known. The writer has strong convictions as to the necessity, place, and amount of

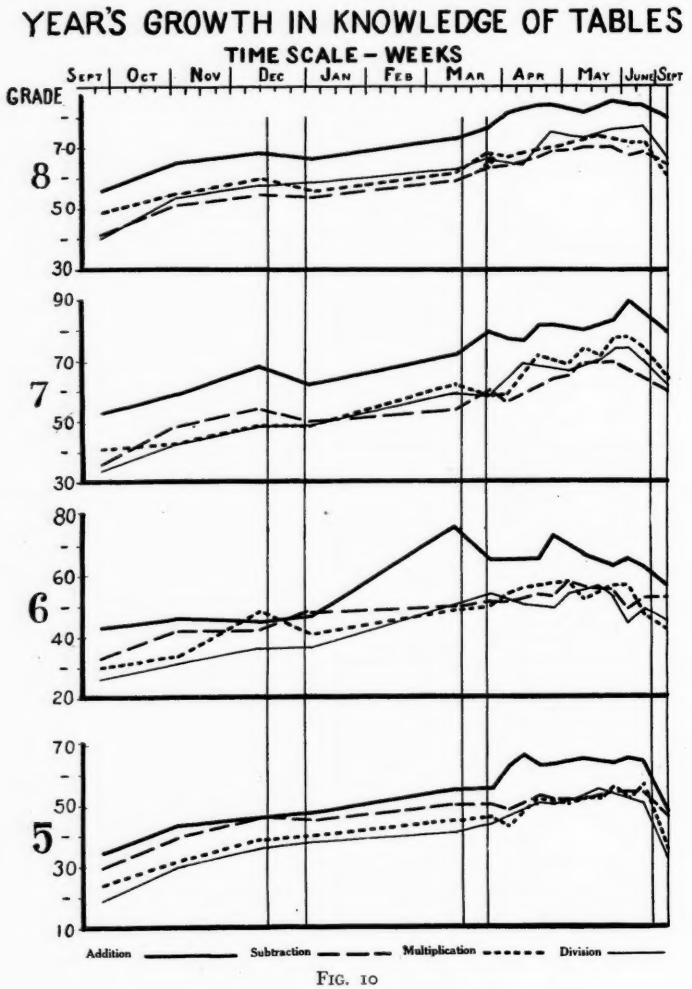

FIG. 10

drill required in elementary work, and in planning the work for the year it was decided to test out the various methods of drill

used at different times in the school. In each of these four grades, the first five minutes of each class period (three per week) is devoted to drill work on the tables. In Grade 5 the spiral method was used, the same table, the same operation, or the same type of practice (visual, motor, oral, etc.) never being followed two days in succession. That is, if the table of 6's in multiplication was written one day, the table of 3's in addition might be practiced orally the next. In Grade 6, however, the drill on one operation was continued many weeks at a time, although the type of practice was frequently changed. In Grade 7 the method followed was a modification of the two extremes of the previous classes, the drill being on one topic for short periods with frequent changes of practice. Grade 8 was taught in three sections, each teacher following a different plan, and the effect as a whole is comparable with that of Grade 5. Unfortunately the press of other duties prevented a careful planning of the experiment and the making of complete records. Unfortunately, also, the observed peculiarities in the behavior of the different grades makes it impossible to say whether the results are due wholly to the methods used, or wholly to the stage of development of the children, or to the effects of one upon the other. The results are, therefore, chiefly valuable as showing the possibilities of such comparative tests.

So far as can be judged, within the limitation mentioned above, continuous drill produces immediate and marked growth followed by equally immediate and marked loss upon cessation of the drill. Note the rise in ability in multiplication in Grade 6 during six weeks in November and December to a position above that of all the other abilities, and the loss of half the gain in the following eighteen days of the Christmas vacation. The curve for addition shows the same effects during the winter term. Compare these ups and downs with the steady, continuous progress of Grade 5. If current opinion were true and "slow growth, sure growth," the method used with Grade 5 would be markedly superior to the others. The loss during the summer vacation, however, opens the whole question anew; for the actual loss that took place may be due to the method, or to the

disorganization which, as noted above, makes its appearance regularly at this grade.

The coming year one method of drill will be used with all the grades, and by varying the method from year to year, the best method for each will eventually be determined. It is to be hoped, however, that some superintendent will undertake this same experiment on a larger scale. If the schools of the city were divided into districts of, say, ten schools each, and definite methods of drill assigned to each district, appropriate records of the work actually done being kept, comparative tests like those above would determine in a single year, with scientific exactness, the relative effectiveness of the various methods.

The results of Grade 6 have a bearing, also, upon the question of transfer discussed above. Note that the marked gain in multiplication is accompanied by but slight gain in division, while the curve for substraction is stationary and that for division actually depressed. In the same manner the loss in multiplication has equally little effect on division while the other two operations show recovery and slight gain. This, and other similar effects during the year, suggest some tendency toward equalization within the mind itself. If this proves to be in any degree true, it but serves, in connection with the tendency toward uniformity in relative rank of the various grades in September, to emphasize the importance for education generally of exact quantitative studies of the learning process.

AGRICULTURAL EDUCATION: BOYS' AGRICULTURAL CLUBS

BENJAMIN MARSHALL DAVIS
Miami University

The actual introduction of agricultural subjects into the public schools has developed along two lines, one indirect and informal, the other direct and formal. They may be regarded as two stages of one development, for experience seems to indicate that creating an interest informally by means of boys' agricultural clubs is often, if not always, the most successful method of introducing the study of agriculture into the schools of a community.

Indeed, in many places where formal instruction has failed boys' clubs have been a great success. This is well illustrated in Louisiana. In that state, although the teaching of agriculture has been required since 1898, it has not received much serious attention in the elementary schools. But boys' clubs are being organized in every parish in the state, one parish school boys' club, for example, enrolling during the present year 555 members. This form of agricultural instruction is extending rapidly over the entire country, and is becoming a very important extension work in education as well as in agriculture. It tends to ally itself more and more with the public schools, until finally some more or less formal instruction becomes a regular part of the school work.

Thus in Ohio the state superintendent of agricultural extension work writes that most boys' and girls' club activities are now conducted as a part of the school work and that agricultural clubs as such are becoming a thing of the past, so that no separate records or statistics are now generally kept in the state (118, p. 12).[1]

Two good accounts of the agricultural club movement have been published by the United States Department of Agriculture,

[1] References by numbers are to the corresponding number in the bibliography at the end of this article, or in bibliographies following other articles of this series.

one tracing its development to 1904 (44), the other from 1904 to 1910 (118). The following discussion will therefore be confined chiefly to the present status of the movement with typical examples of successful work, and to the reaction of the agricultural clubs on rural education.

> Various agencies have taken the initiative in starting this movement under particular local conditions, but the inspiration for state-wide activity in these lines has generally come from some individual or official source connected with the state department of education, the state agricultural college, or the United States Department of Agriculture. In the absence of such initiative the work has sometimes begun in the zeal and wisdom of some county officer or association, as the county superintendent of schools, the farmers' institute society, the county fair association, or teachers' association, the Grange organization, or the Young Men's Christian Association. Experience has shown that the work has always been most permanent and productive when it has resulted in a definite local organization, preferably under the leadership of the county school superintendent (118, p. 7).

Reference has already been made to the work of the state and college extension departments, of state departments of education, and of other agencies in the organization of these clubs (29, 32, 34, 44, 119).[2]

During the present year this work has been extended, and is becoming better organized. In 1909 there were clubs in twenty-eight states with a total membership of approximately 150,000. During the present year many new clubs have been formed, and the membership in many of those already organized has increased. An instance of the latter is found in the increase in membership of one club from 17 in 1909 to 555 in 1910. In the above estimate for 1909 several states that now have clubs are not included. For example, Kansas has one or more clubs in each county, with a total membership of more than 5,000. The eleven southern states that had a membership of about 13,000 in 1909 have this year nearly 50,000 enrolled. The total membership of 1910 for the entire country may conservatively be estimated at more than 300,000.

The most important recent development is that of the Boys' Corn Club work in the southern states. This work was under-

[2] This *Journal*, Vol. X, No. 6.

taken by representatives of the United States Bureau of Plant Industry through county superintendents of education four years ago. Three years ago it was extended in a few counties of the Gulf states where the boll weevil was damaging cotton crops. At the beginning of 1909 a systematic plan was undertaken to organize Boys' Corn Clubs in a few counties in each of the southern states. There were enrolled 12,400 boys. During 1910 in response to further demands the organizations have been extended into nearly 600 counties, with a total enrolment of 46,225 boys. Although no statistical summary of the work has been issued, a number of reports have been received by the department which show excellent work. In one county in Mississippi 48 boys averaged 92 bushels per acre; 20 boys in one county of South Carolina made 1,700 bushels of corn on 20 acres. Another club of 142 boys averaged 62 bushels to the acre, several going above 100, and two or three above 150 bushels.[3]

The Boys' Corn Club work is the Junior Department of the Government Demonstration Work now being carried on in all the southern states. The results of the boys' work have attracted the attention of the entire country. Considerable prominence was given to it by the public press in 1909, but much more to the results of 1910, particularly to the remarkable achievement of Jerry Moore of Winona, S.C., a boy not fifteen years old, who produced 228¾ bushels of corn on one acre of land, this being the second largest yield per acre in the history of corn production.[4]

The crowning event of the work of 1910 was a visit to Washington on December 12, 1910, of the prize winners from eleven southern states. They were awarded diplomas of merit by the Secretary of Agriculture, presented to the President of the United States, and personally conducted by O. B. Martin, assistant in charge of the Junior Demonstration Work, over the city of Washington, visiting all places of interest.

[3] The above facts were furnished in a letter from O. B. Martin, government assistant in charge of Boys' Demonstration Work.

[4] Results of 1909: *Youth's Companion*, April 10, 1910; Results of 1910: Associated Press account, *Chicago Record-Herald*, December 11 and 18, 1910.

The relation of this work to the schools is indicated by the following extracts from directions for organization and instruction sent out by the department:

Where this work is being introduced in a county, the county superintendent of education and teachers can reach the boys in all sections of the county more quickly and more effectively than any other agency. The superintendent can explain the plan to the teachers, and they can explain it to the boys and secure the names of all the boys who will agree to plant one acre of corn. . . . . Just as soon as the names of all the boys are assembled in the office of the county superintendent of education, duplicate lists should be sent to Dr. S. A. Knapp, Washington, D.C., who has charge of the Farmers' Co-operative Demonstration Work. These boys will from time to time receive circulars of instruction and information in regard to preparation, fertilization, cultivation, seed selection, etc. These circulars furnish excellent subject-matter for discussion at a club meeting, or for a lesson in school. They lead to further study of farmers' bulletins and books. A boy will profit much from such lessons, discussions, and books, because he is making practical application of the principles taught. He learns scientific agriculture because he needs it, and not because it is scientific. . . . . The object of the Boys' Demonstration Work is the same as that among men, namely, better methods of farming and greater yields at less cost. Many of the boys in the clubs who begin to study agriculture in this way will continue the study in agricultural colleges; others will continue such efforts on their farms, and all of them will make useful and more effective citizens.[5]

The organization of the clubs in various states differs somewhat in details, but in general there is a close co-operation between the state departments of education and the state agricultural college. A good example of a state organization is the Farm-Life Club Movement in Alabama:

The leading objects of the Farm-Life Club Movement are educational and for this reason it is our desire to make this movement have a close and vital connection with the work of the county superintendents of education, the teachers, and the schools of the state. There are many important educational problems in Alabama today, but the largest one is the question of better farming. In beginning the work in a county we first secure co-operation of the superintendent and through him interest the teachers. The work is discussed at a teachers' institute and later a letter is mailed requesting each teacher to interest the boys in his school and his community in this

[5] From mimeograph directions sent out by O. B. Martin, assistant in charge of Boys' Demonstration Work, June 1, 1910.

work. The names of the boys are sent to the county superintendent by the teachers.

This work furnishes the greatest opportunity yet launched for the county superintendents and teachers to be of invaluable service to the people in arousing interest in better farming and in improved agriculture.

The ultimate purpose of the work is to aid the great movement for better farming all along the lines, and to encourage the boy to get an education in agriculture and to remain on the farm.

The work in Alabama has been in progress scarcely a year and the results are very encouraging indeed. At present the work has been started in about 17 counties in the state. There is a total of approximately 2,000 boys listed in the work. There have been raised locally among merchants, bankers, and other public-spirited people over $2,000 in prizes. In addition to this the state fairs in Birmingham and Montgomery are offering a total of about $500 for the boys in the corn clubs. After making these exhibits at the state fairs the best of these will be carried to the National Corn Show.

It has been my pleasure during the last month to hold boys' meetings in several counties and to visit a large number of individual acres of corn. The yield in a great many cases is very remarkable. For example, one boy's acre of corn will yield at least 65 bushels of corn, and in addition to the corn there will be enough snap beans and corn middles to pay all the expenses for making the corn, including rent of land and interest on investment. I quote below from a letter recently received from a gentleman who lives in a community where a club has been organized: "Some of the boys are going to make 75 and 85 bushels per acre, and some are going to make as much as 100 bushels." Another letter from a business man will give some idea as to how the business men regard the work: "I think the boys' corn club has worked wonders in the cultivation of corn in this state. I have never seen as much enthusiasm among the old farmers as now prevails, and I feel certain that the Boys' Corn Club is largely responsible for it."

At a meeting held in northern Alabama I asked some of the boys to give me an idea as to the outlook of their corn crop. One, in making a report of his work, said: "Every farmer in a radius of two miles of my acre has visited my corn and said, If you make 35 bushels of corn on this acre we are going to follow your method." Prospects were good for a yield of more than 50 bushels on this acre. The father of this boy said, "I have a special acre myself and do not propose to have my boy beat me raising corn."

This movement is not a question of adding new duties to the county superintendent and teachers without additional pay, but a question of opportunity and service. No movement has yet been projected where superintendents of education and teachers may be of greater service to the people than in the organization of the Farm-Life clubs. This plan also furnishes

the best method yet devised of bringing together in harmonious co-operation all the interests looking to better education and better farming. In this work the county superintendents, the teachers, the merchants, the newspapers, the State College of Agriculture, the State Department of Agriculture, and the State Department of Education can all work together for the common good.[6]

Another important phase of the agricultural-club idea is being developed by the Farmers' Institute specialist of the Office of Experiment Stations of the United States Department of Agriculture. It is known as Farmers' Institutes for Young People. The following statement in regard to these institutes will indicate the object and character of the work undertaken:

> In order, therefore, that opportunity to become acquainted with agricultural operations may be given to those who have left the public school and from whose ranks the future farmers and their wives must be supplied, the farmers' institutes in several states have organized and are now conducting what is known as "institutes for young people." The majority of these are not institutes in the sense in which the work of the farmers' institute has come to be defined. They are in reality boys' and girls' clubs conducted in the same manner as those operated by the public schools. . . . .
>
> Because of the fundamental difficulty in securing teachers capable of giving vocational training and instruction in agriculture in the rural schools, and from the fact that after the scholars leave school no provision has been made for giving them the opportunity to receive such instruction, the farmers' institute has undertaken the training in agriculture of rural children after leaving school. In doing this it has found it necessary to drop from its system of instruction the purely educational feature and to devote itself strictly to giving vocational instruction. Such studies and practice, therefore, as the institute utilizes have in view the perfecting of the individual in his vocation. The institute system, therefore, partakes more nearly than any other of the trade-school method, and is intended for youths above 14 years of age. It will become the connecting link between the agricultural-club movement on the one hand and the regular farmers' institutes for adults on the other (120).

In 1909, 20 states and territories are reported to have held institutes for young people. This system seems to be the best organized in Indiana, where about one-third of the counties have such institutes with an enrolment of over 12,000. The young people's institutes are held at the same time as the farm-

[6] From a letter written by L. N. Duncan, U.S. demonstrator for Alabama, and professor of school agriculture, Alabama State Agricultural College.

ers' institutes but in separate sessions. The public is interested as indicated by liberal contributions, one county appropriating in 1909 $1,000 for this work.

The extension department of the Kansas State Agricultural College is just introducing a correspondence school in connection with its young people's extension work. The object of this is similar to that of the young people's institute, being designed to help boys and girls who have been compelled to leave school.

The boys' clubs of Kansas, whose work thus far has been almost wholly confined to corn contests, are now being organized on a somewhat different basis. The plan follows that of the Boy Scouts of America and the clubs are known as the "Rural-Life Scouts." Although just started, considerable interest is being shown in these clubs. The leaders are generally principals of village schools or pastors of village churches. In counties where there is a Y.M.C.A. secretary, the organizations are affiliated with the Y.M.C.A. work.

The county superintendent of education and his teachers have been an important factor in making boys' clubs a success, whether under the auspices of the Government Demonstration Work, state agricultural colleges, or state departments of education. The work in large units, state or sectional, is really made possible by successful work carried out by county superintendents of schools or teachers in the various parts of the country. It may be of interest at this point to give somewhat in detail a concrete example of how a county superintendent of education went about organizing successful boys' agricultural clubs in his own county.

The county superintendent of Delaware County, Iowa, began to organize boys' clubs six years ago, holding township meetings where the boys brought corn selected from their fathers' seed corn. The meetings were addressed by an expert, on "What Constitutes Good Seed Corn." This was accompanied by demonstrations from samples of poor and good ears. The corn brought by the boys was then judged and commented upon by the expert. The superintendent then distributed seed corn which he had bought for this purpose. The year following the boys came

together in a contest showing the results obtained from the corn distributed the year before. This work was continued through the next year, except that the boys selected their own seed corn from their fathers' corn. A short course in agriculture was held at Manchester, the county seat, where about sixty boys attended. The corn clubs continued to grow in interest from year to year until most of the boys were as good judges of corn as, or even better than, their fathers. Last year the work was varied by using oats instead of corn. The superintendent purchased forty bushels of Canadian oats, and distributed the seed among the boys of the county. At the close of the season a contest was held at which the results of the season's work were shown. The experiment was watched with much interest throughout the county, and the farmers were eager to purchase seed from the boys for their own farms. In one year the value of Canadian oats for Delaware County was demonstrated by the boys, and oat production in the county was greatly improved.

All this was extra school work, but the superintendent made good use of the interest thus aroused to help and improve the regular school work. Raising corn and oats became subjects of compositions, references to bulletins and books were used as reading lessons, and estimates of cost and yield furnished material for arithmetic. By means of printed instructions sent to teachers from time to time, the formal work of the schools became enlivened and strengthened by its practical application.

The work in Delaware County is a typical example of how the education of a county or township system may be redirected by means of boys' clubs. Springfield Township, Ohio (119), Keokuk (44) and Page (121) counties, Iowa, Natchitoches Parish, Louisiana, Winnebago County, Illinois (122, 123), Wexford County, Michigan, and many other places might be mentioned where boys' agricultural clubs have not only been the means of improving school conditions but by their success have led to similar work being introduced in other places.

Although not connected in any way with the public schools, the work of W. B. Otwell, editor of the *Otwell's Farmer Boy*,

Carlinville, Ill., deserves special mention. Mr. Otwell is chiefly responsible for the beginning of the state-wide development of boys' corn clubs in Illinois, and had charge of their exhibit at the St. Louis Exposition, where 1,250 boys' exhibits received awards. By means of his paper he is interesting a large number of boys of the Middle West. He is conducting at present a corn contest in which 25,000 boys are competing.[7] Another feature of his boys' club is an annual encampment for those who can attend, for the purpose of agricultural study.

In order to give description in sufficient detail, the foregoing discussion of boys' agricultural clubs has been limited to a few typical examples of what is now actually being accomplished. References have been made from time to time to the public interest in the clubs and to their influence upon the public schools.

It was the intention in preparation of this article to include a fuller discussion of the relation of this movement to rural education than space will now permit. Opinions have been gathered from a number of state superintendents, and from others interested in rural education as to the reaction of the agricultural club movement upon the rural schools. These opinions are well summed up in the following:

> Keeps boys in school longer; gives teacher greater influence and power; convinces farmers that school people want to and can be useful to the farming interests, and tends to make the school the center of community life; stirs farmers to greater endeavor and to better methods of farming, and increases general interest in agriculture and returns.

Perhaps the most important contribution that these clubs are now making to agricultural education in the public schools is in the recognition by the patrons of the direct value in dollars and cents that such instruction has, a recognition which will lead to better support and interest of the community in the schools.

BIBLIOGRAPHY

The facts of the text have been gathered chiefly from correspondence with those interested in boys' agricultural clubs in various parts of the country. Only references indicated by number in the text are included in the following list.

[7] *Otwell's Farmer Boy*, Carlinville, Ill., December, 1910.

118. "Boys' and Girls' Agricultural Clubs," F. W. HOWE, U.S. Department of Agriculture, *Farmers' Bulletin No. 385* (1910), 23.

This bulletin contains history, plans, and recent development of these clubs under the following heads: Introductory Summary of Results; How Work Has Been Accomplished in Several States; Assistance Given by the Department of Agriculture; The Relation of Club Work to Rural Education; Suggestions for Organization; List of References; Statistics.

119. "Agricultural Clubs in Rural Schools," HOMER C. PRICE, *Ohio State University Bulletin,* Ser. 7, No. 10 (1904), 14.

The bulletin contains suggestions for organizing clubs in the rural schools of Ohio. These suggestions are the outgrowth of the previous year's experience of the first club formed in Ohio under the auspices of the students of the Agricultural Union. This bulletin is of special interest because it represents the beginning of organized effort to develop agricultural clubs in Ohio.

120. "Farmers' Institutes for Young People," JOHN HAMILTON, U.S. Department of Agriculture, Office of Experiment Stations, *Circular No. 99* (1910), 40.

This circular calls attention to "lack of adequate means for giving vocational training in agriculture to young people in rural districts after they leave the public school and before they enter upon their life occupations." Boys' and girls' clubs, farmers' institutes for young people, subjects for institute study, systematic course for contest work, boys' encampments, form of organization, season for meeting, states and territories in which young people's institutes are organized, model constitution for young people's institutes, order of topics for boys' institute, score cards for various products, are some of the subjects discussed.

121. *Boys' Agricultural Club Bulletin,* JESSIE FIELD, Office of County Superintendent of Schools, Clarinda, Iowa (1909), 14.

This bulletin gives an account of the boys' club of Page County, Iowa, including summary of results of 1908 and plans for 1909.

122. *The Winnebagoes,* O. J. KERN, Office of County Superintendent of Schools, Rockford, Ill. (1903). Pp. 64.

This is a report of the Winnebago County (Ill.) schools, with suggestions for their improvement. One chapter (pp. 39–49) is devoted to boys' and girls' clubs. An account is given of the Boys' Experimental Club organized in 1902. This was one of the first boys' agricultural clubs organized in the United States.

123. *Among Country Schools,* O. J. KERN, New York: Ginn & Co. (1906). Pp. 366.

This is one of the best contributions to rural education that has been written. One chapter is devoted to a Boys' Experiment Club (pp. 129–57).

A BRIEF REPORT OF THE MOSCOW EXPERIMENTAL SCHOOL

N. KICITCHKO

A few of us who are interested in the newest methods of teaching determined to open a small experimental school, where we could put these methods to the test, and watch their effect upon the children's development. We also wished to prove to teachers that the new methods could be gradually ingrafted on the old school system, without entirely supplanting the latter. Moreover, we wished to show that special training for the teachers was not indispensable. This is an important point, because nowhere in Russia is special training for the new teaching obtainable. Therefore we were obliged to follow the usual program of the primary school, changing only the method of teaching. Our teachers had the same training as those of the usual public primary schools. There was among us a former teacher from one of these schools, who undertook the teaching in our school.

As we wished the school to be within reach of all, we fixed the school fee at 3 rubles yearly.

The principles of the school.—Our school is based on the following principles: the development of individuality, independence of character, and observation in the child, and the avoidance from the first of all mechanical routine. For developing the critical faculties of the children we depend largely upon frank criticism of the work of the class. Education by observation must be based on teaching the children to express their thoughts and impressions by manual work. Full scope must be given to their imagination and creative power.

The program is as follows: Scripture history, which is obligatory in all Russian schools, Russian, arithmetic, nature-study, manual work, and drawing. We do not use exclusively the phonetic method in teaching Russian, as phonetics make but

slight impression on the memory, and our first object is to catch the eye and memory of the children. We have therefore prepared a special primer for use in our school. In teaching arithmetic we make a point of convincing the children of the value of counting in their own everyday lives. Then we gradually carry them on to more abstract calculations. We take care that they shall see each new problem worked out before them. In teaching nature-study to the youngest class we convey no new knowledge to the children, but make it our aim to adjust the impressions already gathered by them from familiar objects. Therefore we do not make nature-study a separate branch of instruction. Neither are manual work and drawing distinct branches; they form a necessary integral part of the study of Russian, arithmetic, and nature-study. Manual work and drawing are the means the children have of expressing their thoughts and fancies—their language, in fact. There are no special drawing-lessons, drawing serving simply as a means of illustrating the other subjects. Free play is given to the children's creative power. The teacher does not correct the drawings, but these are criticized by the whole class, and the ones which are approved are exhibited. This criticizing proves most useful.

The idea of the school.—The fundamental idea of the school is that reliance should be placed on the children themselves. It is they who have to keep the place in order; and discipline is maintained by the keen interest the children take in their lessons. The result of the children's criticizing each piece of work produced is that they all participate in it, and so learn to estimate the capacity of each child, and to be indulgent toward the less capable. The general interest thus awakened in the work makes for thoroughness, accord, and independence of character. Offenders are tried by their companions, to whose decision they have to submit. Thus the teacher is relieved from maintaining discipline, having rather to act as defender of the culprit, as his schoolmates are inclined to pass very severe sentences. Consequently the relations between teacher and pupils are most friendly, and the children love their school. This shows beyond all doubt that we are on the right track.

The whole school (25 children—boys and girls) is in the hands of a single teacher; the rest of us help her by criticisms, and aid in working out programs and methods.

Our experimental school has proved that it is possible to introduce drawing and manual work into elementary schools, and get the child to express in drawing what he sees and understands. In giving full liberty to the child's faculty of criticism we develop his independence of thought and individuality in work.

EDITORIAL NOTES

A Cyclopedia of Education

There has just come from the press of the Macmillan Company Vol. I of a comprehensive educational treatise which is to contain in five volumes a general survey of all the topics which the teacher and the educational administrator discuss in their practical and technical conferences. Such psychological terms as "abstraction," "adolescence," and "attention" are treated. Such practical problems as "Air in the Schoolroom" and the "School System of Alabama" are taken up in this first volume. One finds here also all the higher institutions of learning, the chief persons who have figured in educational history, all the subjects of instruction, such as "architecture" and "agriculture."

Editor

The editor of this cyclopedia is Professor Paul Monroe, whose works on the history of education are universally known and appreciated. The list of departmental editors includes fifteen leading students of educational problems in this country and England.

General Significance of the Book

This note is not intended as a review of the work; such an account will appear in the course of time and will take up fully the contents and character of the work. In the meantime it is worthy of comment that such a work has appeared in the English language. American teachers have been discussing for many years the possibility of developing a general body of educational doctrine which shall give unity to educational practice. In Germany they have had for some years a comprehensive work of the type now presented in English, in Rein's *Encyclopedia*. To be sure, the German work has not solved the problem of unifying German schools. Nor can any English work solve all our American problems. But both works serve in a very direct fashion to bring educational interests to a focus. There will be contradictions in the present work, there will be many posi-

tions defended which will not stand in the years to come; but at all events we have now a common basis for discussions and for future formulations. This cyclopedia shows in definite form what has been achieved in America toward a definition of education, and it will promote further evolution by making clear what is past and by its statement of present practices and present aims.

Educational Terminology

This cyclopedia serves one purpose which has been the subject of editorial comment in earlier numbers of this journal. We have here a common foundation on which to develop a technical educational terminology. There is no possibility of a general interest in educational science until teachers master some of the terms appropriate to their profession. The architect, the banker, the engineer, all find it necessary to master a technical terminology, and these specialists do not complain when books and articles addressed to them contain such special terms. Teachers have been less willing than members of other professions to master the terminology necessary in their special discussions. Indeed, there has been no good book to which the teacher could turn for explanation of these terms. Here is such a book of reference. When writers on education use technical words in the future, they can do it with some assurance that the reader who wishes to study education seriously has a reference work. All discussions will be made accessible by this work.

Brings Together and Formulates Doctrines

Finally, the book contains a great deal of material which will at once command universal acceptance. It is, therefore, a strong influence in the direction of a central rational interpretation of American education. The articles present a body of scholarly material which will command respect from readers in other departments of science and letters. The intelligent general reader will also find here a broad view of school problems and educational doctrine. For what it contains, for what it codifies and makes available, and for what it promises, the book will be most heartily welcomed by all who are laboring to make American education scientific and systematic.

The Committee of Seven of the Northern Illinois Superintendents' and Principals' Association

The report of the Committee of Seven of the Northern Illinois Superintendents' and Principals' Association will appear in the April and May numbers of this journal. The complete report will be in the hands of members of the Association by April 10. The annual meeting will be held at DeKalb, as usual, on May 5 and 6. The special topic this year is "Elementary Science." The Committee of Seven has held a meeting in Chicago each month since September, and its report is now in the hands of a subcommittee for final writing.

BOOK REVIEWS

Richard of Jamestown, Mary of Plymouth, Ruth of Boston, Calvert of Maryland, Peter of New Amsterdam, Stephen of Philadelphia. By JAMES OTIS. New York: American Book Co., 1910. Cloth, 12mo, about 165 pages each, with illustrations. 35 cents.

This series of six volumes is intended for supplementary history reading in the middle grades of the elementary schools. Its purpose as stated by the author is "to show the children the home life of the colonists" and "to give such homely facts as are not to be found in the real histories of our land." The stories are told "from the viewpoint of a child and purport to have been related by a child." They describe the life of the colonists in an intimate way, giving many details of the appearance of the country, the occupations of the people, the building and furnishing of their homes, their household life and comforts, and their hardships and privations in a new and strange land.

While "these books are not sent out as histories," they furnish exactly the kind of information necessary to make history a genuine study for children of ten and eleven years. Children at this time crave details which help them to feel at home in the life of the past. They get little satisfaction from the brief, abstract statements of the ordinary textbook. The details here chosen are well selected, often from the historical sources, and are given with much of the charm of the original narratives.

Many teachers will no doubt miss in these books the plot and continuous narrative of the ordinary story, but they will find the descriptions of colonial life and work as interesting as stories and more suggestive of problems that provoke thought and discussion on the part of the children. The books should be used as intended by the author in connection with works of "real history."

We have had much supplementary reading covering the events of our early history but no works treating in any adequate way of industrial and social life. Otis has given us books of a unique type, but a type that should become common for both elementary and secondary schools. This series treats of the very beginnings of colonial history and might well be followed by a series giving the later developments of colonial industries and the effects of these industries upon society. For instance, *Richard of Jamestown* ends just as tobacco becomes the leading product of Virginia, and a study of tobacco culture and its influence would be especially valuable.

The series is well planned to give studies of typical northern, southern, and middle colonies. The illustrations are attractive and in general well selected to explain the narrative.

E. J. R.

BOOKS RECEIVED

AMERICAN BOOK CO., NEW YORK

A Language Series, Book I. By ROBERT C. METCALF AND AUGUSTINE L. RAFTER. Cloth. Illustrated. Pp. 256. $0.40.

A Language Series, Book II. By ROBERT C. METCALF AND AUGUSTINE L. RAFTER. Cloth. Illustrated. Pp. 365. $0.60.

Calvert of Maryland. By JAMES OTIS. Cloth. Illustrated. Pp. 166. $0.35.

Christmas Carols and Hymns for School and Choir. Compiled by HOLLIS DANN. Cloth. Pp. 112. $0.45.

Nature Study by Grades. By HORACE H. CUMMINGS. Cloth. Illustrated. Pp. 274. $0.75.

Practical Elementary Algebra. By JOS. V. COLLINS. Cloth. Pp. 301. $0.85.

Speaking and Writing: Book II. By WILLIAM H. MAXWELL, EMMA L. JOHNSON, AND MADALENE D. BARNUM. Cloth. Illustrated. Pp. 128. $0.23.

Stories of the King. By JAMES BALDWIN. Cloth. Illustrated. Pp. 335. $0.50.

The Story of Old France. By H. A. GUERBER. Cloth. Illustrated. Pp. 374. $0.65.

THOMAS Y. CROWELL & CO., NEW YORK

The Land of Living Men. By RALPH WALDO TRINE. Cloth. Pp. 302. $1.25.

HARPER & BROS., NEW YORK

Class Teaching and Management. By WILLIAM ESTABROOK CHANCELLOR. Cloth. Illustrated. Pp. 343. $1.00.

Harpers' Book of Little Plays. By MARGARET SUTTON BRISCOE, JOHN KENDRICK BANGS, CAROLINE A. CREEVEY, MARGARET E. SANGSTER, AND OTHERS, with an introduction by MADALENE D. BARNUM. Cloth. Illustrated. Pp. 142. $0.75.

The Children's Plutarch: Tales of the Romans. By F. J. GOULD, with an introduction by W. D. HOWELLS. Cloth. Illustrated. Pp. 171. $0.50.

The Children's Plutarch: Tales of the Greeks. By F. J. GOULD, with an introduction by W. D. HOWELLS. Cloth. Illustrated. Pp. 167. $0.50.

The Young Forester. By ZANE GREY. Cloth. Illustrated. Pp. 224. $1.25.

Travels in History by Mark Twain. Selected from the works of Mark Twain by C. N. KENDALL. Cloth. Illustrated. Pp. 171. $0.50.

LITTLE, BROWN & CO., BOSTON

A Knight of Arthur's Court. By JOHN HARRINGTON COX. Cloth. Illustrated. Pp. 95. $0.50.

Beowulf the Anglo-Saxon Epic. By JOHN HARRINGTON COX. Cloth. Illustrated. Pp. 91. $0.50.

Fanciful Flower Tales Overheard in Fairyland. By MADGE BIGHAM. Cloth. Illustrated. Pp. 162. $0.50.

Grasshopper Green's Garden. By JULIA AUGUSTA SCHWARTZ. Cloth. Illustrated. Pp. 197. $0.60.

Heroes of Chivalry and Their Deeds. By FRANCES NIMMO GREENE AND DOLLY WILLIAMS KIRK. Cloth. Illustrated. Pp. 199. $0.60.

Smoky Day's Wigwam Evenings: Indian Stories Retold. By CHARLES A. EASTMAN AND ELAINE GOODALE EASTMAN. Cloth. Illustrated. Pp. 148. $0.60.

Stories of British History. By TOM BEVAN. Cloth. Illustrated. Pp. 205. $0.50.

The Children of History: Early Times. By MARY S. HANCOCK. Cloth. Illustrated. Pp. 142. $0.50.

The Children of History: Later Times. By MARY S. HANCOCK. Cloth. Illustrated. Pp. 193. $0.50.

The Louisa May Alcott Story Book. Edited for schools by JENNY E. COE. Cloth. Illustrated. Pp. 202. $0.50.

THE MACMILLAN CO., NEW YORK

A Modern Dictionary of the English Language. Cloth. Pp. 765. $0.60.

Child Problems. By GEORGE B. MANGOLD. Cloth. Pp. 381. $1.25.

CURRENT EDUCATIONAL LITERATURE IN THE PERIODICALS[1]

IRENE WARREN
Librarian, School of Education, The University of Chicago

ATWOOD, WALLACE W. The first-year science course in high school. School R. 19:119–23. (Fe. '11.)

AYRES, HARRY MORGAN. The degree of Master of Arts. Educa. R. 41:161–69. (Fe. '11.)

BAGLEY, WILLIAM C. Entrance requirements and "college domination" as sources of motivation in high-school work. School R. 19:73–84. (Fe. '11.)

BENNETT, CHARLES A. Visiting manual training schools in Europe (8). Man. Train. Mag. 12:247–70. (Fe. '11.)

BISHOP, E. S. Some new modifications of old experiments in physics. School R. 19:114–18. (Fe. '11.)

BOWEN, W. P. The classification of playground activities. Amer. Physical Educa. Rev. 16:44–50. (Ja. '11.)

BROWN, J. C. An investigation on the value of drill work in the fundamental operations of arithmetic. Journ. of Educa. Psychol. 2:81–88. (Fe. '11.)

BUTLER, NATHANIEL. Report of the joint committee on the relations between the University of Chicago and co-operating secondary schools. School R. 19:124–27. (Fe. '11.)

BUTLER, NICHOLAS MURRAY. The revolt of the unfit. Educa. R. 41:109–15. (Fe. '11.)

Colleges and high schools. Nation 92:30–31. (12 Ja. '11.)

Co-operative research work in school practice. Teach. College Rec. 12:2–4. (Ja. '11.)

CRAWSHAW, FRED. D. The relation between and the content in manual training and engineering shop courses (1). Man. Train. Mag. 12:209–17. (Fe. '11.)

DAVIS, BENJAMIN MARSHALL. Agricultural education: agricultural societies. El. School T. 11:266–74. (Ja. '11.)

[1] *Abbreviations.*—Amer. Phys. Educa. Rev., American Physical Education Review; Cent., Century; Educa. News, Educational News; Educa. R., Educational Review; El. School T., Elementary School Teacher; Journ. of Educa. (Bost.), Journal of Education (Boston); Journ. of Educa. (Lond.), Journal of Education (London); Journ. of Educa. Psychol., Journal of Educational Psychology; Man. Train. Mag., Manual Training Magazine; Pop. Sci. Mo., Popular Science Monthly; Primary Educa., Primary Education; School R., School Review; School W., School World; Sci. Amer. Sup., Scientific American Supplement; Teach. College Rec., Teachers College Record.

DAVIS, W. M. The disciplinary value of geography. Pop. Sci. Mo. 78:105–19. (Fe. '11.)

DEARBORN, GEORGE V. N. Attention: certain of its aspects and a few of its relations to physical education (3). Amer. Physical Educa. Rev. 16: 26–40. (Ja. '11.)

Experimental science teaching: some applications of Mariotte's bottle. Sci. Amer. Sup. 71:36. (21 Ja. '11.)

FOSTER, W. S. The effect of practice upon visualizing and upon the reproduction of visual impressions. Journ. of Educa. Psychol. 2:11–22. (Ja. '11.)

FRANKLIN, W. S. Physics from the college point of view. Educa. R. 41:82–89. (Ja. '11.)

FREUDENTHAL, WOLFF. Dry air in the schoolroom. Amer. Physical Educa. Rev. 16:23–25. (Ja. '11.)

GOETTSCH, CHARLES. A visit to the Frankfort *Musterschule*. School R. 19:103–13. (Fe. '11.)

HANEY, JAMES PARTON. Twenty-one years of manual training (1). Man. Train. Mag. 12:218–36. (Fe. '11.)

JASTROW, JOSEPH. An American academician. Educa. R. 41:27–33. (Ja. '11.)

JOHNSON, HARROLD. The basis of moral education: a lesson from France. Journ. of Educa. (Lond.) 42:19–22. (Ja. '11.)

KING, IRVING. The problem and content of a course in the social aspects of education. Journ. of Educa. Psychol. 2:23–34. (Ja. '11.)

LEAVITT, FRANK M. The relation of the movement for vocational and industrial training to the secondary schools. School R. 19:85–95. (Fe. '11.)

LINN, JAMES WEBER. What the university expects of high-school students in English. School R. 19:96–102. (Fe. '11.)

MCANDREW, WILLIAM. How to choose a public-school teacher. World's Work 21:13965–66. (Fe. '11.)

MACDONALD, WILLIAM. The interest of the public in the college curriculum. Educa. R. 41:60–70. (Ja. '11.)

MEYERS, IRA BENTON. The evolution of aim and method in the teaching of nature-study in the common schools of the United States (2). El. School T. 11:237–48. (Ja. '11.)

MONTMORENCY, J. E. G. DE. The medieval education of women. Journ. of Educa. (Lond.) 42:22–24. (Ja. '11.)

(The) more recent developments of education. School W. 13:15–17. (Ja. '11.)

(The) most notable school books of 1910. School W. 13:17–20. (Ja. '11.)

O'SHEA, M. V. Readings in great educators. Primary Educa. 19:65–66. (Fe. '11.)

PARKINSON, WILLIAM D. Sex and education. Educa. R. 41:42–59. (Ja. '11.)

RANCK, SAMUEL H. The use of the library lecture room. Lib. Journ. 36:9–14. (Ja. '11.)

Report on teaching technical grammar. Teach. College Rec. 12:5–22. (Ja. '11.)

RISLEY, JAMES H. The social service of public schools as indicated by the results of a study of a typical community. El. School T. 11:225–36. (Ja. '11.)

SALMON, LUCY M. The historical museum. Educa. R. 41:144–60. (Fe. '11.)

SAVAGE, WATSON L. Physiological and pathological effects of severe exertion (The Marathon race) (2). Amer. Physical Educa. Rev. 16:1–11 (Ja. '11.)

Secondary education in New Zealand. School W. 13:7–11. (Ja. '11.)

SHOWERMAN, GRANT. The Foxfielders at school. Educa. R. 41:1–26. (Ja. '11.)

SKINNER, M. M. Aspects of German teaching in America. Educa. R. 41:34–41. (Ja. '11.)

SMILEY, W. S. A comparative study of the results obtained in instruction in the "single teacher" rural schools and the graded town schools. El. School T. 11:249–65. (Ja. '11.)

SMYTH, HERBERT WEIR. Graecia capta. Educa. R. 41:116–26. (Fe. '11.)

STECHER, WILLIAM A. Philadelphia playgrounds. Amer. Physical Educa. Rev. 16:51–53. (Ja. '11.)

STEELE, ASA. The moving-picture show. World's Work 21:14018–32. (Fe. '11.)

STRAYER, GEORGE DRAYTON. Measuring results in education. Journ. of Educa. Psychol. 2:3–10. (Ja. '11.)

THORNDIKE, EDWARD L. Mental fatigue. Journ. of Educa. Psychol. 2:61–80. (Fe. '11.)

UPDEGRAFF, HARLAN. Improvement of the rural school. Educa. R. 41:135–43. (Fe. '11.)

VAILE, E. O. Reading for thought and its cultivation in school. Educa. R. 41:71–81. (Ja. '11.)

WELLS, AMOS R. Secret societies in high schools. Journ. of Educa. (Bost.) 73:5–9. (5 Ja. '11.)

WEST, ANDREW F. The proposed graduate college of Princeton. Cent. 81:600–12. (Fe. '11.)

WHITNEY, FRANK P. Differentiation of courses in the seventh and eighth grades. Educa. R. 41:127–34. (Fe. '11.)

WILLIAMS, J. E. The administration of justice in Dundee. Educa. News. 36:3–6 (6 Ja. '11.)

WOOLLATT, G. H. Handwork in relation to science teaching: the manipulative skill of the teacher. School W. 13:23–24. (Ja. '11.)